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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,791	08/19/2003	Anthony A. Gallo	3833-030392 (LDEO-108)	7402

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Webb Ziesenheim Lodsdon
Orkin & Hanson, P.C.
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219-1818

EXAMINER

KEEHAN, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,791

Applicant(s)

GALLO ET AL.

Examiner

Christopher M. Keehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Examiner's Comments

In the previous office action, claims 25-27 were not addressed. These claims are addressed as set forth below.

Claim Rejections - 35 USC § 103

Claims 1, 2, 4-15, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (6,660,811 B2). Regarding claims 1, 2, 4-7, 9, and 11, 12, 14, and 15, Ogura et al. disclose an epoxy resin composition comprising an epoxy resin, more specifically an epoxy cresol novolac or biphenyl epoxy resin (col.14, lines 20-22), wherein the epoxy resin is present at 11.6% (Table 1, Examples 1 and 2 with resin A), a melamine cyanurate (col.17, line 49), and a transition metal oxide containing an oxyanion of a group VIA element, more specifically tungsten oxide (col.18, line 17), a phenolic novolac hardener (col.14, line 55-col.15, line 14) present in an amount (8.1% by weight) included in the range as claimed by applicant (Table 1, Examples 1 and 2), or an anhydride curing agent (col.14, lines 53-55) and a bulk amount of filler (col.16, line 55-col.17, line 5). Ogura et al. do not appear to specifically disclose these components all together in a working example. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the components

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as instantly claimed because Ogura et al. disclose that these components can be used together to produce an epoxy resin excellent in flame retardance, resulting in a higher quality product.

Regarding claim 8, Ogura et al. disclose adding melamine cyanurate (col.17, lines 49-59), and an amount of a metal oxide containing an oxyanion (col.18, lines 30-36) at amounts that encompass applicant's instantly claimed ranges, respectively. Regarding claim 10, Ogura et al. disclose 11.6% by weight of epoxy resin (Table 1, Examples 1 and 2). Ogura et al. do not appear to specifically disclose from about 5.5% by weight to about 8.5% by weight as claimed. However, it has been held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). The 11.6% by weight of Ogura et al. appears to be close enough to the claimed about 8.5% to possess the same properties, absent evidence to the contrary.

Regarding claim 13, Ogura et al. disclose adding a catalyst in an amount included in applicant's range (Table 1, Examples 1 and 2).

Claims 3 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (6,660,811 B2) in view of Gallo et al. (5,476,716). Ogura et al., as applied above, are as set forth and incorporated herein. Ogura et al. do not specifically disclose tungsten trioxide. Gallo et al. disclose an epoxy resin composition substantially free of

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halogen and antimony comprising epoxy resin with a phenolic novolac hardener, and the inclusion of tungsten trioxide (Table 1 and col.8, lines 1-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used tungsten trioxide as taught by Gallo et al. in the composition as taught by Ogura et al. because Gallo et al. teach that adding tungsten trioxide to an epoxy resin composition produces a more flame resistant molded resin, resulting in a higher quality product.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallo et al. (6,432,540 B1) in view of von Gentzkow et al. (5,760,146). Gallo et al. disclose a flame retardant composition substantially free of halogen and antimony comprising an epoxy resin as claimed (col.2, lines 47-59), phenolic novolac hardener (col.4, lines 28-31) and a transition metal oxide as claimed, more specifically tungsten trioxide (col.4, lines 33-39), and a filler as claimed (col.4, line 40-col.5, line 4). Gallo et al. do not appear to specifically disclose melamine cyanurate. Von Gentzkow et al. disclose a composition comprising epoxy resin (col.6, lines 30-41) and melamine cyanurate as a flame retardant (col.8, line 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added melamine cyanurate as a flame retardant as taught by von Gentzkow et al. to the epoxy resin composition as taught by Gallo et al. because von Gentzkow et al. teach that adding melamine cyanurate to an epoxy resin composition produces increased flame retardance, resulting in a higher quality product.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallo et al. (6,432,540 B1) in view of Heine et al. (6,500,546 B1). Gallo et al. disclose a flame retardant composition substantially free of halogen and antimony comprising an epoxy resin as claimed (col.2, lines 47-59), phenolic novolac hardener (col.4, lines 28-31) and a transition metal oxide as claimed, more specifically tungsten trioxide (col.4, lines 33-39), and a filler as claimed (col.4, line 40-col.5, line 4). Gallo et al. do not appear to specifically disclose melamine cyanurate. Heine et al. disclose a composition comprising epoxy resin (col.7, lines 23-32) and melamine cyanurate as a flame retardant (col.7, line 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added melamine cyanurate as a flame retardant as taught by Heine et al. to the epoxy resin composition as taught by Gallo et al. because Heine et al. teach that adding melamine cyanurate to an epoxy resin composition produces increased flame retardance, resulting in a higher quality product.

Response to Amendment

The declaration under 37 CFR 1.132 filed 4/14/05 has been considered. To begin, the declaration is effective in that it shows 4 parts by weight of melamine cyanurate and 6 parts by weight tungsten trioxide together produce less flammability than 10 parts by weight of tungsten trioxide and 10 parts by weight melamine cyanurate, respectively, for the compositions as set forth in the declaration. However, the

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declaration does not effectively address the claims. Regarding claim 1, the claim is drawn to a transition metal oxide, but the declaration involves tungsten trioxide. In addition, claim 1 contains no amounts of the constituents, and does not require a silica filler. Therefore, the declaration is not commensurate in scope with claim 1.

Regarding claims 12, 27, and the claims dependent on claim 1, the declaration used amounts of the following: epoxy (13.36 % by weight), melamine cyanurate (4.00% by weight), and tungsten trioxide (6.00% by weight). Claims 12 and 27 contain amounts as follows: epoxy (about 4 to about 12 weight %), melamine cyanurate (about 0.1 to about 3.5%), and tungsten trioxide (about 0.1 to about 2% by weight). The amounts of these constituents in the declaration are not included in the claimed ranges. Therefore, the declaration is not commensurate in scope with claims 12, 27, and the claims dependent on claim 1. Further, claim 12 contains a phenolic hardener, which the declaration does not address.

Response to Arguments

Applicant's arguments filed 4/14/05 have been fully considered but they are not persuasive. To begin, applicant has argued against the 103(a) rejection over Ogura et al. and Ogura et al. with Gallo. Ogura et al. set forth flame retardants of melamine cyanurate and tungsten oxide, and that they can be used without any restriction. It appears obvious to use a combination of well-known flame retardants to reduce flammability. Gallo merely teaches the use of tungsten trioxide.

Applicant has argued against the 103(a) rejection over Gallo in view of von Gentzkow et al. and Heine et al. Gallo discloses the claimed composition with tungsten trioxide, but no melamine cyanurate. Heine et al. and von Gentzkow et al. teach that melamine cyanurate is a commonly used flame retardant. It appears obvious to use a combination of well-known flame retardants to reduce flammability.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (571) 272-1087. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Christopher Keehan

Chk

May 3, 2005

DAVID J. BUTTNER
PRIMARY EXAMINER

David Buttner